



Cobra-8 Safety Information

v1.1

July 2010

HighWater Products Limited
39 Cheltenham Trade Park, Central Way,
Cheltenham, Glos., GL51 8LX
Tel: +44 (0) 1242 578357, Fax: +44 (0) 1242 578071
<http://www.highwaterproducts.com>, email: info@highwaterproducts.com

Preface

The information in this manual is subject to change, without notice, and should not be construed as a commitment by HighWater Products Limited. HighWater Products Limited assumes no responsibility or liability for any errors or inaccuracies that appear in this manual.

All rights reserved. No part of this manual may be reproduced or transmitted in any form, or by any means, without the prior written permission of HighWater Products Limited.

Version 1.0 September 2007

Version 1.1 July 2010

HighWater contact information

HighWater Products Limited
39 Cheltenham Trade Park
Central Way
Cheltenham
Gloucestershire
UK
GL51 8LX
Telephone: +44 (0) 1242 578357
Fax: +44 (0) 1242 578071
Email: info@highwaterproducts.com
Web: <http://www.highwaterproducts.com>

Contents

- 1. Introduction · 3**
- 2. Safety notices · 3**
- 3. Working safely · 4**
 - 3.1. Protecting yourself from injury · 4
 - 3.2. Protecting the Cobra-8 drum from damage · 4
 - 3.3. Protecting the plate from being fogged by light · 5
- 4. Stopping the Cobra-8 platesetter in an emergency · 5**
- 5. Additional information for engineers · 5**
 - 5.1. Safety information · 5
 - 5.2. Laser precautions · 6
- 6. Labels on the Cobra-8 platesetter · 7**
 - 6.1. Main lid · 8
 - 6.2. Rear of left/right return (lid removed) · 8
 - 6.3. Front of left/right return · 9
 - 6.4. Left-hand side rear of service cover · 9
 - 6.5. Carriage cover · 10
 - 6.6. Power supply (with carriage parked over bed) · 10
 - 6.7. Product ID and Certification labels · 11

1. Introduction

Approvals for EN 60825 (Laser Safety) and MET/UL are currently pending. The content of this document is provisional information provided in anticipation of these approvals.

This manual contains important information about the Cobra-8 system with regard to your health and safety, and for protecting the Cobra-8 platesetter against damage. Please read this manual carefully.

2. Safety notices

WARNING: This equipment must be earthed. Cobra-8 requires a single power outlet, accessible at all times and located as close as possible to the Cobra-8 system.

This equipment complies with BS EN 60825-1:1994 +A1 and A2, and with 21 CFR 1040.10 and 1040.11.

Cobra-8 is a CLASS 1 EMBEDDED LASER product. Once any covers are removed, Cobra-8 becomes a CLASS 3B LASER DEVICE and appropriate safety precautions must be taken.

CAUTION: The use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser exposure.

WARNING: When the covers are removed, the laser beam used in the Cobra-8 platesetter is harmful to the eyes. Servicing and repair should be carried out by HighWater qualified personnel only.

Laser properties:

- Wavelength: 405nm
- Laser output: maximum 60mW

Labels

The labels shown in section 6 are present on all Cobra-8 machines. Please ensure that you follow all the necessary safety precautions, as indicated.

3. Working safely

WARNING: You must work safely in order to protect yourself and others from injury and the Cobra-8 plater from damage. Please follow the instructions in this section carefully.

Under normal operating conditions it is not possible for you to come into contact with the laser beam when the Cobra-8 plater's lid is open. However, you, the user, must ensure that:

- All access doors to the Cobra-8 room display the BSI-approved warning symbol:



- When an engineer is working on the laser, no-one enters the room unless they are wearing safety goggles that meet approved standards.
- You have received training on safety procedures as well as instructions on how to operate Cobra-8.
- Cobra-8 is never left in a condition where the operator can be exposed to the laser beam.

3.1 Protecting yourself from injury

To protect yourself from injury:

- Take great care when handling plates and, in particular, keep the edges of the plate away from your face.
- Make sure that nothing (especially your clothing) gets trapped in the lid.

3.2 Protecting the Cobra-8 drum from damage

To protect the Cobra8 drum from damage:

- Do not put any object, other than a plate, into the drum.
- Regularly inspect and clean the Cobra-8 drum and surrounding areas (as described in the **Cobra-8 User Guide**).
- Ensure that the Cobra-8 plater is situated in the recommended environment:
 - A clean, office-like environment.
 - The atmosphere must be clear of contaminants (particularly oil vapour) that could cause deposits on optical surfaces.
 - A temperature range of 15–25°C.
 - A relative humidity of 10 to 80% non-condensing. (However, to reduce and control optical contamination, HighWater recommends a relative humidity of 10-50%.)
 - Air-conditioned (required for most installations).

3.3 Protecting the plate from being fogged by light

To protect the plate from being fogged by light:

- In the brightroom, use the appropriate safety lighting (as recommended by the plate manufacturer).
- While the brightroom is in use, you need to prevent its door from being opened. To do this, you could:
 - Use an external light on the brightroom to show when it is in use.
 - Put a message on the door to indicate that the brightroom is in use.

WARNING: For safety reasons, we recommend that you DO NOT lock the brightroom door.

- After output, protect the plate from unsafe light sources until it has been processed.

4. Stopping the Cobra-8 platesetter in an emergency

If you need to stop the Cobra-8 platesetter immediately because of potential injury or damage to a person or the Cobra-8 platesetter, then do one of the following:

Either

Open the Cobra-8 platesetter's lid. This will immediately stop the carriage and laser.

Or

Disconnect the system from the power source by removing the mains plug from the wall socket.

WARNING: Switching off Cobra-8 during operation using the mains plug (or its main switch) is NOT recommended and should only be used in an emergency situation.

5. Additional information for engineers

This section is intended for installation and service engineers who may be operating the Cobra-8 platesetter when there is a potential risk of being exposed to the Cobra-8 laser, or a risk of coming into contact with moving mechanical parts.

WARNING: All engineers must carefully read this section and abide by the safety requirements when working on the Cobra-8 platesetter.

5.1 Safety information



Cobra-8, under normal operation, is a CLASS 1 embedded laser product and is inherently safe for operators because they cannot operate the laser if the lid is open. Service engineers will be able to bypass the lid interlock and also remove covers, and they may then be exposed to the laser, which is a CLASS 3B product.

All engineers must be trained and approved by HighWater, and must follow all safety procedures defined in this document. HighWater accepts no responsibility for any damage to equipment or injury to the person caused by non-approved engineers, or by failure to follow these safety procedures.

Safety warning



Ideally, installation and, wherever possible, servicing and repair should be carried out with all covers fitted. Covers should only be removed when this is absolutely necessary as part of the recommended procedures.

Access to the Cobra-8 platesetter's internal mechanisms is gained by removing various covers inside the platesetter. All covers must be replaced and the mains lead reconnected before leaving the equipment.

WARNING: AT NO TIME should the machine be operated whilst any covers are removed or the interlock defeated if the engineer is not present in the work area.

5.2 Laser precautions

Cobra-8 has a single laser source for the plate expose beam: a blue-violet laser diode. It is rated at 60mW and emits a visible light beam at a nominal wavelength of 405nm. This laser falls into CLASS 3B, which means that direct viewing of the laser beam is **always** hazardous, as is viewing direct reflections. Diffuse reflections are normally safe.

Cobra-8 is designed as a CLASS 1 embedded laser product and is, therefore, safe for the operator. However, the CLASS 3B ratings apply as soon as any covers are removed or the lid interlock is defeated.

WARNING: CLASS 3B lasers are dangerous and, if the beam is viewed incorrectly, it may cause irreversible retinal damage or blindness. Therefore, you, the engineer, must:

1. Ensure that you and those working with you have adequate eye protection against the laser.
2. Ensure that no unauthorised personnel have access to the work area where the laser is exposed.
3. Ensure that no laser light escapes from the work area.
4. Ensure that the room is clear of unauthorized personnel while you are working on the Cobra-8 platesetter.
5. Ensure that appropriate warning signs are displayed on all doors leading to the work area.
6. Leave the Cobra-8 platesetter in a safe state when it is left unattended.

AT NO TIME MUST THE MACHINE BE OPERATED WHILST ANY COVERS ARE REMOVED OR THE LID INTERLOCK IS DEFEATED IF THE ENGINEER IS NOT PRESENT IN THE WORK AREA.

7. Replace and secure all covers and panels, and remove the interlock key before leaving the Cobra-8 work area.

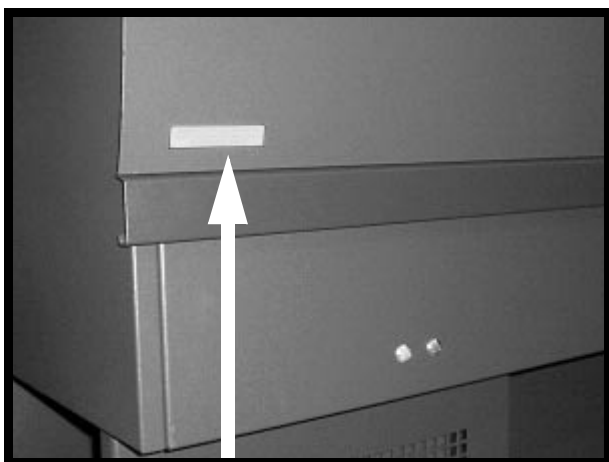
6. Labels on the Cobra-8 platesetter

This chapter shows the safety labels that are present on the Cobra-8 platesetter:

- 6.1. Main lid (page 8).
- 6.2. Rear of left/right return (lid removed) (page 8).
- 6.3. Front of left/right return (page 9).
- 6.4. Left-hand side rear of service cover (page 9).
- 6.5. Carriage cover (page 10).
- 6.6. Power supply (with carriage parked over bed) (page 10).
- 6.7. Product ID and Certification labels (page 11).

Ensure that you follow all necessary safety precautions, as indicated on the labels.

6.1 Main lid



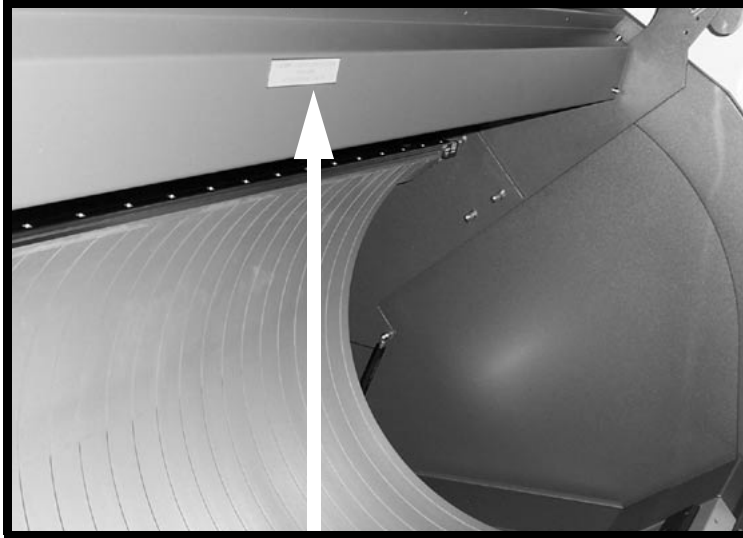
**CAUTION – CLASS 3B LASER RADIATION
WHEN OPEN AND INTERLOCK DEFEATED
AVOID EXPOSURE TO BEAM**

6.2 Rear of left/right return (lid removed)



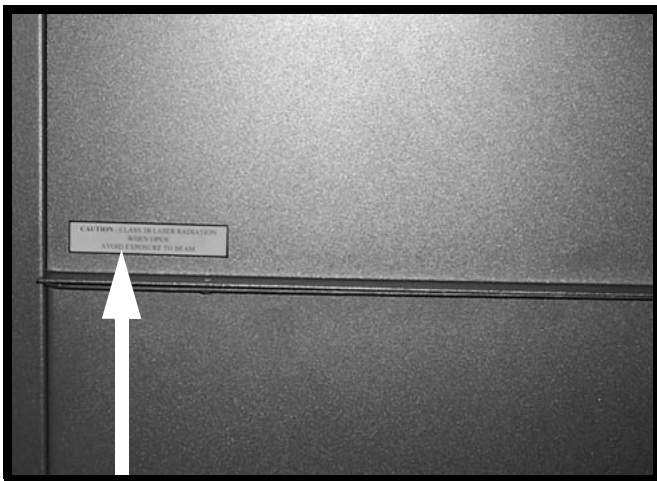
**CAUTION – CLASS 3B LASER RADIATION
WHEN OPEN
AVOID EXPOSURE TO BEAM**

6.3 Front of left/right return



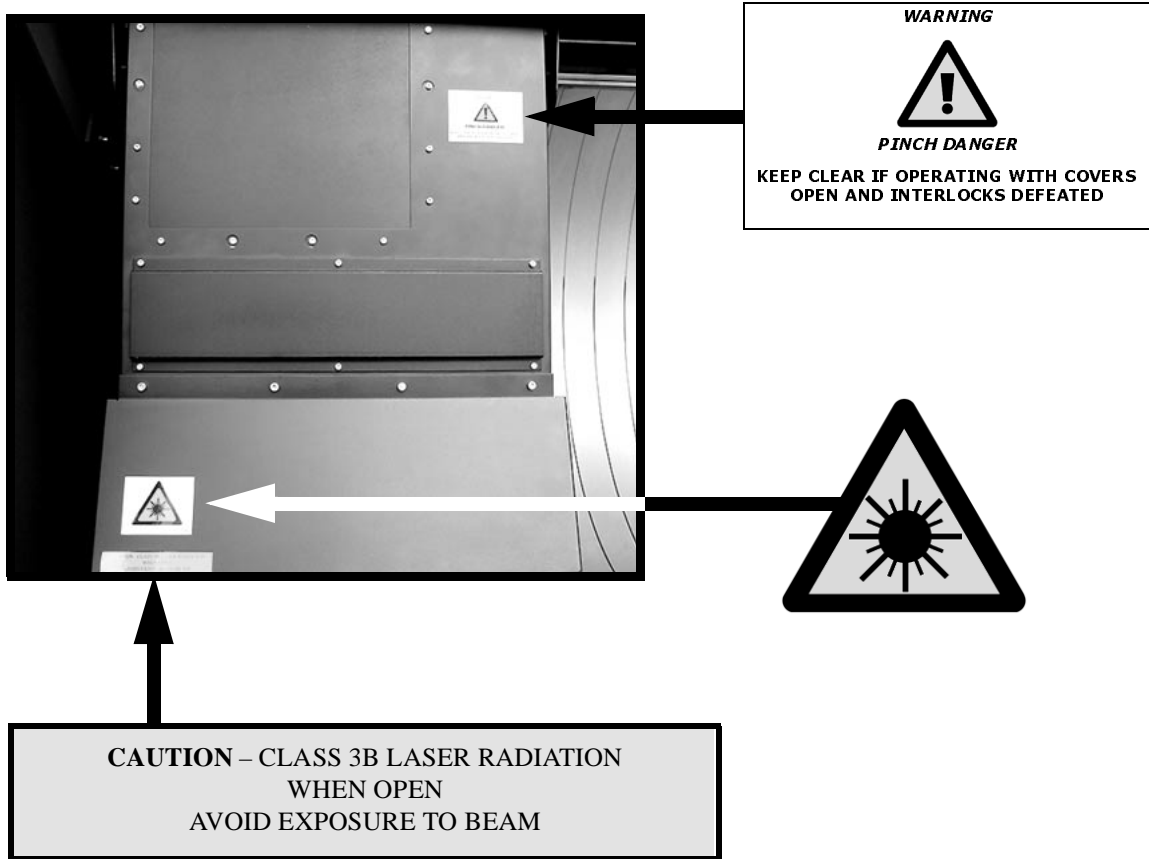
**CAUTION – CLASS 3B LASER RADIATION
WHEN OPEN
AVOID EXPOSURE TO BEAM**

6.4 Left-hand side rear of service cover

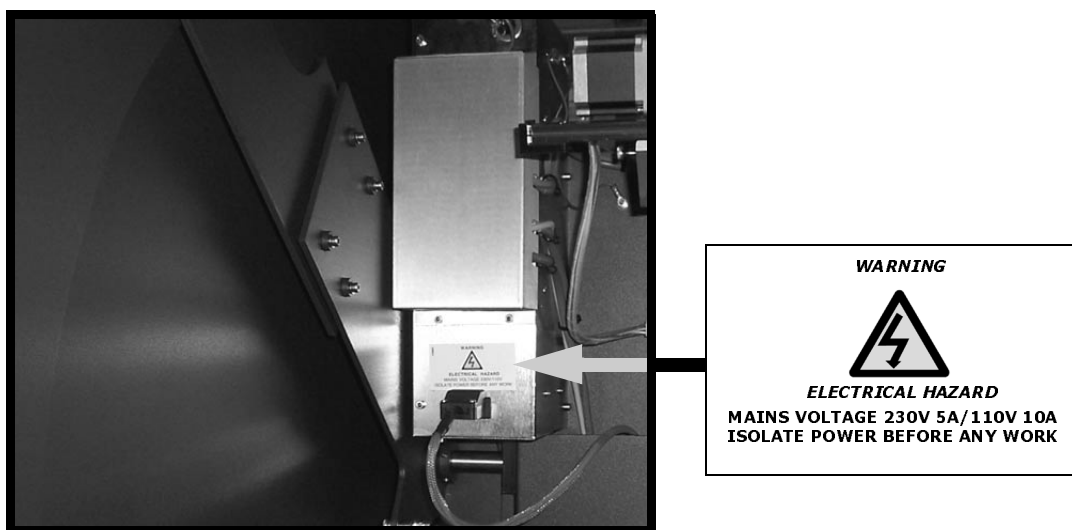


**CAUTION – CLASS 3B LASER RADIATION
WHEN OPEN
AVOID EXPOSURE TO BEAM**

6.5 Carriage cover



6.6 Power supply (with carriage parked over bed)



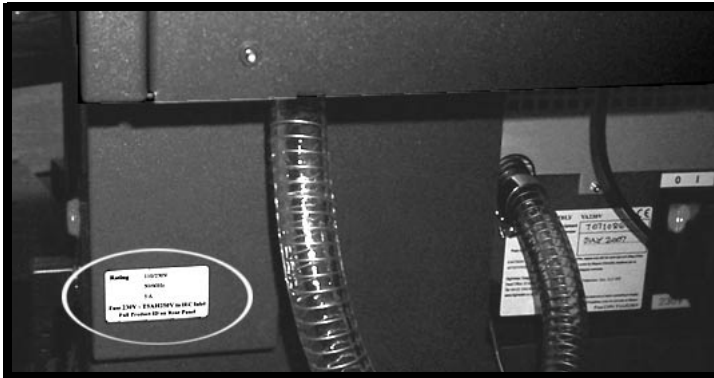
6.7 Product ID and Certification labels

Product Identification Label



| Cobra 108BV60 | | CE |
|---|---|--|
| Computer to Plate Equipment | | |
| Rating | 110/230V 50/60Hz 5 Amps | Serial Number |
| | | CB |
| | Fuse in IEC Inlet | Date of Manufacture |
| | | |
| CAUTION | For continued protection against risk of fire, replace only with the same type and rating of fuse | |
| ATTENTION | Pour ne pas compromettre la protection contre les risques d'incendie, remplacer par un fusible de meme type et de memes caracteristiques nominales. | |
| HighWater Products Ltd 39 Cheltenham Trade Park, Central Way, Cheltenham, Glos, GL51 8LX Tel: +44 (0) 1242-578357, Fax: +44 (0) 1242-578071 www.highwaterproducts.com, Email: info@highwaterproducts.com | | |
| Complies with BS EN 60825-1:1994+A1&A2 and 21 CFR 1040.10 and 1040.11 | | See Installation Instructions before connecting to supply Voir la notice d'installation avant de raccorder au reseau Fuse 230V – T5AH250V |

Fuse Rating Label



| | |
|---------------|--|
| Rating | 110/230V |
| | 50/60Hz |
| | 5 A |
| | Fuse 230V-T5AH250V in IEC Inlet |
| | Full Product ID on Rear Panel |

Vacuum Pump 230V Product Identification Label

| | | | | | |
|--|---|----------------------|--|----|--|
| VACUUM ASSEMBLY | | VA230V | CE | | |
| Cobra-8 Computer to Plate Equipment | | | | | |
| Rating | 230V | Serial Number | <table border="1"> <tr> <td>VA</td> </tr> <tr> <td> </td> </tr> </table> | VA | |
| VA | | | | | |
| | | | | | |
| | 50Hz | | | | |
| | 4 Amps | Date of | | | |
| Fuse in IEC Inlet | | Manufacture | | | |
| CAUTION | For continued protection against risk of fire, replace only with the same type and rating of fuse | | | | |
| ATTENTION | Pour ne pas compromettre la protection contre les risques d'incendie, remplacer par un fusible de meme type et de memes caractéristiques nominales. | | | | |
| HighWater Products Ltd | | | | | |
| Head Office: 39 Cheltenham Trade Park, Central Way, Cheltenham, Glos, GL51 8LX | | | | | |
| Tel +44 (0) 1242-578357, Fax +44 (0) 1242-578071 | | | | | |
| http://www.highwaterproducts.com, Email: info@highwaterproducts.com | | | | | |
| See Installation Instructions before connecting to Supply | | | | | |
| Voir La Notice D'installation avant de raccorder au Reseau | | | | | |
| Fuse230V-T4AH250V | | | | | |

Vacuum Pump 110V Product Identification Label

| | | | | | |
|--|---|----------------------|--|----|--|
| VACUUM ASSEMBLY | | VA110V | | | |
| Cobra-8 Computer to Plate Equipment | | | | | |
| Rating | 110V | Serial Number | <table border="1"> <tr> <td>VA</td> </tr> <tr> <td> </td> </tr> </table> | VA | |
| VA | | | | | |
| | | | | | |
| | 60Hz | | | | |
| | 8 Amps | Date of | | | |
| Fuse in IEC Inlet | | Manufacture | | | |
| CAUTION | For continued protection against risk of fire, replace only with the same type and rating of fuse | | | | |
| ATTENTION | Pour ne pas compromettre la protection contre les risques d'incendie, remplacer par un fusible de meme type et de memes caractéristiques nominales. | | | | |
| HighWater Products Ltd | | | | | |
| Head Office: 39 Cheltenham Trade Park, Central Way, Cheltenham, Glos, GL51 8LX | | | | | |
| Tel +44 (0) 1242-578357, Fax +44 (0) 1242-578071 | | | | | |
| http://www.highwaterproducts.com, Email: info@highwaterproducts.com | | | | | |
| See Installation Instructions before connecting to Supply | | | | | |
| Voir La Notice D'installation avant de raccorder au Reseau | | | | | |
| Fuse110V-T8AH250V | | | | | |

